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8 **BEFORE THE**
BOARD FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS
9 **DEPARTMENT OF CONSUMER AFFAIRS**
STATE OF CALIFORNIA

10 In the Matter of the Accusation Against:

Case No. 859-A

11 **THOMAS HENRY LUTGE**
12 370 Irwin Street
13 San Rafael, California 94901

A C C U S A T I O N

14 **Civil Engineer License No. C 39743**
Structural Engineer License No. S 3160

15 Respondent.

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17 Complainant alleges:

18 **PARTIES**

19 1. David E. Brown (Complainant) brings this Accusation solely in his official capacity
20 as the Executive Officer of the Board for Professional Engineers and Land Surveyors,
21 Department of Consumer Affairs.

22 2. On or about August 23, 1985, the Board for Professional Engineers and Land
23 Surveyors issued Civil Engineer License Number C 39743 to Thomas Henry Lutge (Respondent).
24 The Civil Engineer License was in full force and effect at all times relevant to the charges brought
25 herein and will expire on December 31, 2011, unless renewed.

26 3. On or about November 19, 1988, the Board for Professional Engineers and Land
27 Surveyors issued Structural Engineer License Number S 3160 to Thomas Henry Lutge
28

1 (Respondent). The Structural Engineer License was in full force and effect at all times relevant to
2 the charges brought herein and will expire on December 31, 2011, unless renewed.

3 JURISDICTION

4 4. This Accusation is brought before the Board for Professional Engineers and Land
5 Surveyors (Board), Department of Consumer Affairs, under the authority of the following laws.
6 All section references are to the Business and Professions Code unless otherwise indicated.

7 5. Section 6775 of the Code states, in pertinent part, that "[T]he board may reprove,
8 suspend for a period not to exceed two years, or revoke the certificate of any professional
9 engineer registered under this chapter:

10 ...

11 (c) Who has been found guilty by the board of negligence or incompetence in his or her
12 practice.

13 ...

14 (h) Who violates any provision of this chapter.

15 6. Section 6749 of the Code States:

16 "(a) A professional engineer shall use a written contract when contracting to provide
17 professional engineering services to a client pursuant to this chapter. The written contract shall be
18 executed by the professional engineer and the client, or his or her representative, prior to the
19 professional engineer commencing work, unless the client knowingly states in writing that work
20 may be commenced before the contract is executed. . ."

21 COSTS

22 7. Section 125.3 of the Code provides, in pertinent part, that the Board may request the
23 administrative law judge to direct a licensee found to have committed a violation or violations of
24 the licensing act to pay a sum not to exceed the reasonable costs of the investigation and
25 enforcement of the case.

26 8. Section 419 of the Title 16, California Code of Regulations states in pertinent part:
27
28

1 "In addition to the disciplinary orders described in this section, all decisions shall address
2 recovery of the Board's investigation and enforcement costs, as described in and authorized by
3 Business and Professions Code section 125.3."

4 FACTUAL BACKGROUND

5 9. Respondent entered into two with contracts Robert and Christina Adams. One
6 contract was for engineering work on the Adamses' property located at 359-361 Lombard St. San
7 Francisco. The other contract was for construction work on the same Adamses' property. The
8 contract for engineering services was not signed by the Adamses. This Accusation deals solely
9 with the engineering services provided by Respondent. Respondent prepared several sets of
10 calculations and drawings for the Adamses including those described in paragraphs 10-15.

11 10. Respondent prepared a set of calculations dated November 10, 2005, entitled
12 "STRUCTURAL CALCULATIONS FOR: STRUCTURAL REHABILITATION WITH NEW
13 SEISMIC UPGRADE/UMB WALL REMOVAL ADAMS RESIDENCE 359-361 LOMBARD
14 STREET SAN FRANCISCO, CA 94133." This set of calculations was 62 pages long.

15 11. Respondent prepared a set on calculations dated November 10, 2005, entitled
16 "STRUCTURAL CALCULATIONS FOR: BLOCK: 78 LOT: 41 EXISTING GARAGE
17 EXTENSION UNDER REAR OF EXISTING BUILDING ADAMS RESIDENCE 359-661
18 LOMBARD STREET SAN FRANCISCO, CA 94133." This set of calculations was 39 pages
19 long.

20 12. Respondent prepared a 13 page set of calculations dated July 24, 2009 (pages 8 and 9
21 were dated November 10, 2005), entitled "PLAN CHECK COMMENT RESPONSE FOR:
22 DEPARTMENT OF BUILDING INSPECTION."

23 13. Respondent prepared drawings dated October 22, 2005, entitled "STRUCTURAL
24 REHABILITATION WITH NEW SEISMIC UPGRADE/UMB WALL REMOVAL ADAMS
25 RESIDENCE 359-361 LOMBARD STREET SAN FRANCISCO, CA 94133." These Drawings
26 are numbered R-1 to R-3 and S1-S13.

27 14. Respondent prepared additional drawings dated October 22, 2005, entitled
28 "STRUCTURAL REHABILITATION WITH NEW SEISMIC UPGRADE/UMB WALL

1 REMOVAL ADAMS RESIDENCE 359-361 LOMBARD STREET SAN FRANCISCO, CA
2 94133.” These drawings are numbered A1 to A9, S1 to S4, S4-A, S4-B, S5 to S-13, and R1-R3.

3 15. Respondent prepared drawings dated November 2, 2005, entitled “EXISTING
4 GARAGE EXTENSION UNDER REAR OF EXISTING BUILDING ADAMS RESIDENCE
5 359-661 LOMBARD STREET SAN FRANCISCO, CA 94133.” These drawings are numbered
6 A1 to A9, S1 to S11.

7 16. In general the drawings and calculations contain numerical errors, omissions, and
8 incorrect methodology used in design and engineering.

9 FIRST CAUSE FOR DISCIPLINE

10 (Negligence)

11 17. Respondent is subject to disciplinary action under section 6775(c) of the Code in that
12 Respondent was involved in negligence in the practice of professional engineering. The set of
13 calculations described in paragraph 10, above, contain errors that constitute negligence. The
14 errors in the calculations that constitute negligence are as follows:

15 a. On page 32: The design of the wall stem neglects the effect of any vertical loads. In
16 the calculation U, the value of D (dead load) is ignored even though the value of the dead load
17 was derived and shown on the previous page, page 31.

18 b. On page 32: The calculation of the moment capacity of the wall stem is based on a
19 wall thickness of 11.25". However drawings described in paragraph 13 (page S6, detail C)
20 indicate that the wall thickness is actually 10". Therefore there is a discrepancy between the
21 design assumption on page 32 and the specified detail on page S6 of the drawings. The moment
22 capacity based on the wall thickness of 10" does not meet the demand requirements and the wall
23 is undersized.

24 c. The strength of concrete called out in the calculations on page 32 is $f'_c = 2500$ psi for
25 the design of the retaining wall. However there is a discrepancy with the General Notes on the
26 structural drawings which calls out concrete strength as $f'_c = 3000$ psi (Sheet S1 of the drawings
27 described in paragraph 13).

28 ///

1 d. On page 37: Respondent failed to specify the angle of inclination of the rock anchor
2 shown on this page or generate any calculations to determine the actual embedment lengths
3 needed for both the bond zone and non-bond zone. While Respondent did indicate the
4 methodology for determining the appropriate lengths on sheet S11 of the drawings described in
5 paragraph 13, Respondent failed to provide engineering analysis and justification for the final
6 design.

7 e. On page 50: Respondent failed to include calculations as to how the wind loads were
8 determined. Respondent included no justifications for the wind load values chosen. Furthermore
9 Respondent omitted wind loads for an entire floor. Respondent assumed a conservative value for
10 wind load which is more in line with engineering judgment than with rigorous engineering
11 analysis or design. The distribution of lateral loads to the wood shear walls in the longitudinal
12 direction was not shown or justified.

13 f. On page 57: The formula given for the calculation of uplift force, P_{up} , is incorrect.
14 Additionally, there was no derivation of the forces resisted by the shear walls. Respondent
15 assumed and failed to justify the forces used in the calculations.

16 SECOND CAUSE FOR DISCIPLINE

17 (Incompetence)

18 18. Respondent is subject to disciplinary action under section 6775(c) of the Code in that
19 Respondent was involved in incompetence in the practice of professional engineering. The set of
20 calculations described in paragraph 10, above, contain errors that constitute incompetence. The
21 errors in the calculations that constitute incompetence are as follows:

22 a. On pages 29 and 46: The cross sections of the building shown on pages 29 and 46 are
23 both missing one complete floor level. The design loads generated from this floor was omitted in
24 calculations related to lateral design presented on page 46.

25 b. On Page 36: The design of a critical new concrete retaining wall shown on this page
26 and on page S4 of the drawings described in paragraph 13 was completely omitted from the
27 calculations.

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1 THIRD CAUSE FOR DISCIPLINE

2 (Negligence)

3 19. Respondent is subject to disciplinary action under section 6775(c) of the Code in that
4 Respondent was involved in negligence in the practice of professional engineering. The set of
5 calculations described in paragraph 11, above, contain errors that constitute negligence. The
6 errors in the calculations that constitute negligence are as follows:

7 a. On pages 24 to 25: The design of the mat slab is inconsistent with the design
8 drawings described in paragraph 13 above. The spacing of the reinforcing rebar is closer in the
9 calculations (4 inches) than it is on Page S6 and S7 of the drawings (12 inches).

10 b. On page 33: The lateral soil pressure diagram present on this page and used for
11 design of the rear wall is inconsistent with the pressure diagram given on page 36 of the
12 calculations described in paragraph 10. The soil pressures shown on this page (page 33) do not
13 include the top 6 feet of soil pressure shown on page 36, consequently, the design values used
14 were incorrect.

15 c. On page 36: Respondent failed to specify the angle of inclination of the rock anchor
16 shown on this page or generate any calculations to determine the actual embedment lengths
17 needed for both the bond zone and non-bond zone. While Respondent did indicate the
18 methodology for determining the appropriate lengths on sheet S11 of the drawings described in
19 paragraph 13, Respondent failed to provide engineering analysis and justification for final design.

20 FOURTH CAUSE FOR DISCIPLINE

21 (Incompetence)

22 20. Respondent is subject to disciplinary action under section 6775(c) of the Code in that
23 Respondent was involved in incompetence in the practice of professional engineering. The set of
24 calculations described in paragraph 11, above, contain errors that constitute incompetence. The
25 errors in the calculations that constitute incompetence are as follows:

26 a. On page 21: The cross section of the building is missing one complete floor level.
27 The design loads generated from this missing floor were omitted in calculations.

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1 FIFTH CAUSE FOR DISCIPLINE

2 (Negligence)

3 21. Respondent is subject to disciplinary action under section 6775(c) of the Code in that
4 Respondent was involved in negligence in the practice of professional engineering. The set of
5 calculations described in paragraph 12, above, contain errors that constitute negligence. The
6 errors in the calculations that constitute negligence are as follows:

7 a. On page 10: Respondent omitted the live load in the calculation of factored loads for
8 the existing footing that spans 6 feet. There is live load associated with the floor load to this part
9 of the slab and the wood framed floor attached to the deep beam footing (shown on page 9). The
10 live load does not add significantly to the overall total load but should have been considered and
11 included in the demand calculations.

12 SIXTH CAUSE FOR DISCIPLINE

13 (Negligence)

14 22. Respondent is subject to disciplinary action under section 6775(c) of the Code in that
15 Respondent was involved in negligence in the practice of professional engineering. The set of
16 drawings described in paragraph 13, above, contain errors that constitute negligence. The errors
17 in the calculations that constitute negligence are as follows:

18 a. On sheet S1 (General Notes Page): This page calls for different concrete
19 strengths for different concrete elements. This page has concrete strengths of $f'c=2,500$ psi for
20 footings and slabs on grade, $f'c= 3,000$ for "all other concrete", and $f'c= 4,000$ for columns and
21 waffle slabs. However the calculations for all concrete elements is based on concrete strength of
22 $f'c= 2,500$ psi. The calculations do not have concrete elements with $f'c = 3000$ psi, and $f'c =$
23 4000 psi despite being called out on the General Notes.

24 b. On sheet S4: The size of the temporary shoring beam shown on existing 2nd
25 floor framing plan is not called out and the design of this beam was lacking in the calculations.

26 c. On sheet S6: There are two values given for the retaining wall thickness found
27 in detail C. One value given is 10' and the next value is 11.25".

28 ///

d. On sheet S7: In details B & C, the angle of inclination of the steel anchor and rock bolt are missing. In addition, the details of end anchorage bearing against the concrete wall are missing and were not designed.

SEVENTH CAUSE FOR DISCIPLINE

(Incompetence)

23. Respondent is subject to disciplinary action under section 6775(c) of the Code in that Respondent was involved in incompetence in the practice of professional engineering. The set of drawings described in paragraph 13, above, contain errors that constitute incompetence. The errors in the calculations that constitute incompetence are as follows: Detail A, on sheet S5, is missing a floor level.

EIGHTH CAUSE FOR DISCIPLINE

(Negligence)

24. Respondent is subject to disciplinary action under section 6775(c) of the Code in that Respondent was involved in negligence in the practice of professional engineering. The set of drawings described in paragraph 14, above, contain errors that constitute negligence. The errors in the calculations that constitute negligence are as follows:

a. On sheets A4 to A9: On the proposed 1st level floor plan on Sheet 4A, the new elevator is specified as 'New National Wheelvator "Epic" Residential Elevator.' This is in direct contrast to elevator specifications given on sheets A5 to A9, which call for a Concord Infinity Residential Elevator. There are no structural calculations or designs generated to determine if the wall studs, framing and the structural system is adequate or must be strengthened to support the new (Concord Infinity) elevator loads.

b. On sheet S1 (General Notes Page): This page calls for different concrete strengths for different concrete elements. This page has concrete strengths of $f'_c=2,500$ psi for footings and slabs on grade, $f'_c= 3,000$ for all other concrete, and $f'_c= 4,000$ for columns and waffle slabs. However the calculations for all concrete elements is based on concrete strength of $f'_c= 2,500$ psi. The calculations do not have concrete elements with $f'_c = 3000$ psi, and $f'_c = 4000$ psi despite being called out on the General Notes.

1 c. On sheet S4: The size of the temporary shoring beam shown on existing 2nd
2 floor framing plan is not called out and the design of this beam was lacking in the calculations.

3 d. On sheet S6: There are two values given for the retaining wall thickness found
4 in detail C. One value given is 10' and the next value is 11.25".

5 e. On sheet S7: In details B & C, the angle of inclination of the steel anchor and
6 rock bolt are missing. In addition, the details of end anchorage bearing against the concrete wall
7 are missing and were not designed.

8 NINTH CAUSE FOR DISCIPLINE

9 (Incompetence)

10 25. Respondent is subject to disciplinary action under section 6775(c) of the Code in that
11 Respondent was involved in incompetence in the practice of professional engineering. The set of
12 drawings described in paragraph 14, above, contain errors that constitute incompetence. The
13 errors in the calculations that constitute incompetence are as follows: Detail A on sheet S5 is
14 missing a floor level.

15 TENTH CAUSE FOR DISCIPLINE

16 (Negligence)

17 26. Respondent is subject to disciplinary action under section 6775(c) of the Code in that
18 Respondent was involved in negligence in the practice of professional engineering. The set of
19 drawings described in paragraph 14, above, contain errors that constitute negligence. The errors
20 in the calculations that constitute negligence are as follows:

21 a. Sheets A5 to A9: The specific type of Concord Infinity Residential Elevator to
22 be installed in the subject residence is not called out in the drawings. There are no structural
23 calculations or design generated to determine if the wall studs, framing and the structural system
24 are adequate or must be strengthened to support the new elevator loads.

25 b. On sheet S1 (General Notes Page): This page calls for different concrete
26 strengths for different concrete elements. This page has concrete strengths of $f'_c=2,500$ psi for
27 footings and slabs on grade, $f'_c= 3,000$ for "all other concrete", and $f'_c= 4,000$ for columns and
28 waffle slabs. However the calculations for all concrete elements is based on concrete strength of

1 $f'_c = 2,500$ psi. The calculations do not have concrete elements with $f'_c = 3000$ psi, and $f'_c =$
2 4000 psi despite being called out on the General Notes.

3 c. On Sheet S2: Concrete specified under the "Concrete Quality" table does not
4 correspond to the values used in the calculations. Based on the calculations, all concrete strengths
5 should be $f_c = 2,500$ psi.

6 f. On sheet S5: In details B & C, the angle of inclination of the steel anchor and
7 rock bolt are missing. In addition, the details of end anchorage bearing against the concrete wall
8 are missing and were not designed.

9 ELEVENTH CAUSE FOR DISCIPLINE

10 (Failure to Obtain Signed Contract)

11 27. Respondent is subject to disciplinary action under section Respondent is subject to
12 disciplinary action under sections 6775(c) and 6749 of the Code in that Respondent failed to
13 obtain a written contract signed by all of the parties. The written contract Respondent had with
14 Robert and Christina Adams for engineering services was never actually signed by the Adamases.

16 PRAYER

17 WHEREFORE, Complainant requests that a hearing be held on the matters herein alleged,
18 and that following the hearing, the Board for Professional Engineers and Land Surveyors issue a
19 decision:

20 1. Revoking or suspending Civil Engineer License Number C 39743, issued to Thomas
21 Henry Lutge.

22 2. Revoking or suspending Structural Engineer License Number S 3160, issued to
23 Thomas Henry Lutge.

24 3. Ordering Thomas Henry Lutge to pay the Board for Professional Engineers and Land
25 Surveyors the reasonable costs of the investigation and enforcement of this case, pursuant to
26 Business and Professions Code section 125.3;

27 ///

28 ///

4. Taking such other and further action as deemed necessary and proper.

DATED:

9/19/10

Original Signed

DAVID E. BROWN
Executive Officer
Board for Professional Engineers and Land Surveyors
Department of Consumer Affairs
State of California
Complainant

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